



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,648	11/04/2003	Naoya Ishikawa	953.1012	5367

21171 7590 08/15/2005

STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

TRIEU, THAI BA

ART UNIT	PAPER NUMBER
----------	--------------

3748

DATE MAILED: 08/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/699,648

Applicant(s)

ISHIKAWA, NAOYA

Examiner

Thai-Ba Trieu

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-3 and 5 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 20, 2005 has been entered.

Claims 1, 3, and 5 were amended.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically,

- Line 11, "***an exhaust gas purifying apparatus***" is a double recitation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minami (Pub. Number 2002-276405 A), in view of Tsuchiya et al. (Patent Number JP 07-259654 A), and further in view of Kolmanovsky et al. (Patent Number 6,568,173 B1).

Minami discloses an EGR system for an internal combustion engine (2) with a turbocharger (8), comprising a first EGR passage (Not Numbered, Read as a passage including valve 21) for recirculating a part of the exhaust gas from the upstream side of a turbine (81) of the turbocharger (8) to the downstream side of a compressor (82) of the turbocharger;

wherein a second EGR passage (24), comprising an inlet (Not Numbered), for recirculating a part of the exhaust gas from the downstream side of said turbine (81) to the upstream side of said compressor (82), a flow control means (21) for controlling the exhaust gas in said first EGR passage (Read as a passage including valve 21) and said second EGR passage (24), an exhaust gas purifying apparatus (14), an EGR control means (25) for controlling the flow control means based on data detected by an exhaust gas state monitoring means are provided;

wherein the second EGR passage being branched out on an upstream side of the exhaust gas purifying apparatus, and the inlet of the second EGR passage is disposed upstream side of the exhaust gas purifying apparatus (14) (See Figure 1, Paragraphs from [0025] to [0028]);

wherein the flow control means being composed of the first EGR valve (21) arranged in said first EGR passage and the second EGR valve (25) arranged in said second EGR passage, and the EGR control means (10) controls the exhaust gas flow by controlling said first EGR valve (21) and said second EGR valve (25) to be open/closed said exhaust gas state monitoring means being composed of an exhaust gas temperature sensor arranged in said exhaust passage, and the EGR control means controls the exhaust gas flow by controlling said first EGR valve and said second EGR valve to be open/closed based on the exhaust gas temperature detected by the exhaust gas temperature sensor (See Figure 1, and Paragraphs [0012] and [0013]); and

wherein when said exhaust gas detection temperature is not higher than the regeneration temperature of said diesel particulate filter, said first EGR valve is controlled to be open, while said second EGR valve is controlled to be closed, and when said exhaust gas detection temperature is higher than the regeneration temperature of said diesel particulate filter, said second EGR valve is controlled to be open (See Paragraphs [0012], [0013], [0014], [0015], [0016], and [0017]).

However, Minami fails to disclose the location of the diesel particulate filter being in the second EGR passage after the second EGR passage is branched out of the main exhaust gas passage; and the exhaust gas purifying apparatus comprising the diesel particulate filter and NOx purifying catalyst converter.

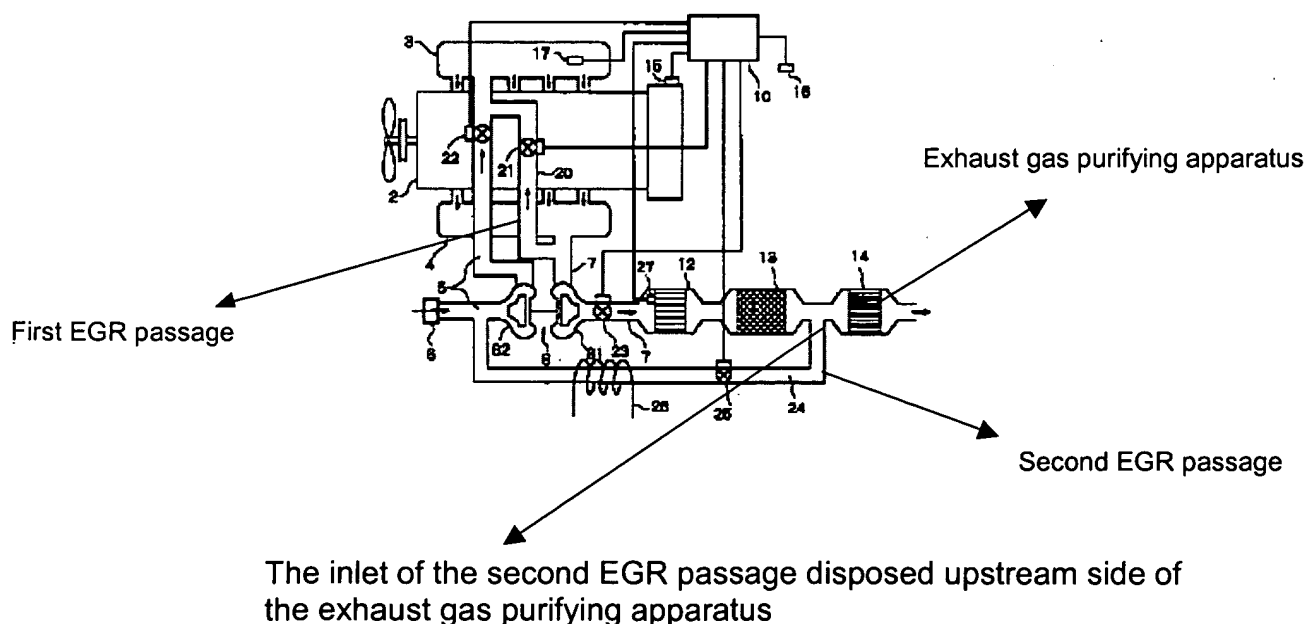
Tsuchiya teaches that it is conventional in the turbocharged internal combustion engine art having exhaust gas recirculation system, to position the diesel particulate

Art Unit: 3748

filter in the second EGR passage after the second EGR passage is branched out of the main exhaust gas passage (See Figures 2 and 3).

Additionally, Kolmanovsky teaches that it is conventional in the turbocharged internal combustion engine art having exhaust gas recirculation system, to utilize the exhaust gas purifying apparatus comprising the diesel particulate filter and NOx purifying catalyst converter (110) (See Figure 1, Column 3, lines 50-56).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have positioned the diesel particulate filter in the second EGR passage after the second EGR passage is branched out of the main exhaust gas passage, as taught by Tsuchiya, and the exhaust gas purifying apparatus comprising the diesel particulate filter and NOx purifying catalyst converter, as taught by Kolmanovsky, to prevent the compressor from being deteriorated in durability as well as to reduce exhaust gas emissions of the Minami diesel engine.

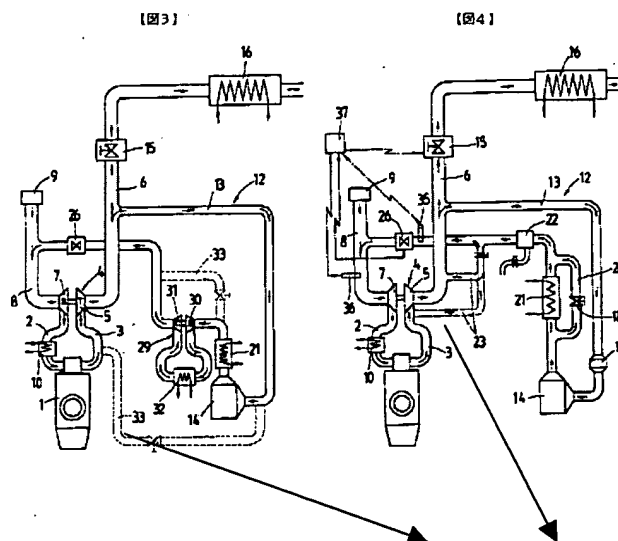


Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Minami (Pub. Number 2002-276405 A), in view of Tsuchiya et al. (Patent Number JP 07-259654 A) and Kolmanovsky et al. (Patent Number 6,568,173 B1), and further in view of Yasuma et al. (Patent Number JP 05-071428 A).

The modified Minami discloses the invention as recited above; however, fails to disclose an inlet of the second EGR passage being arranged at the upstream side of said turbine.

Yasuma teaches that it is conventional in the turbocharged internal combustion engine art, to utilize an inlet of the second EGR passage being arranged at the upstream side of said turbine (via 33, 14, 30, 29, 31, 26, 8) (See Figures 3, 4, and 6).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized an inlet of the second EGR passage being arranged at the upstream side of said turbine, as taught by Yasuma, to improve the reduction of exhaust emissions, in the modified Minami diesel engine.



EGR passage disposed upstream side of the turbine

Response to Arguments

Applicant's arguments with respect to claims 1-3 and 5 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Brookshire et al. (Pub. Number US 2005/0103013 A1) disclose dual and hybrid exhaust gas recirculation systems for a supercharged engine.

- Shirakawa (Pub. Number US 2003/0110760 A1) discloses an excess air factor control of Diesel engine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (571) 272-4867. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Additionally, the new Central FAX Number **(571) 273-8300** is effective on **July 15, 2005**. The old number (703-872-9306) will be routed to the new number until September 15, 2005.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

Art Unit: 3748

published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
August 10, 2005



Thai-Ba Trieu
Primary Examiner
Art Unit 3748